

PLAN SUBMISSION

NOTES

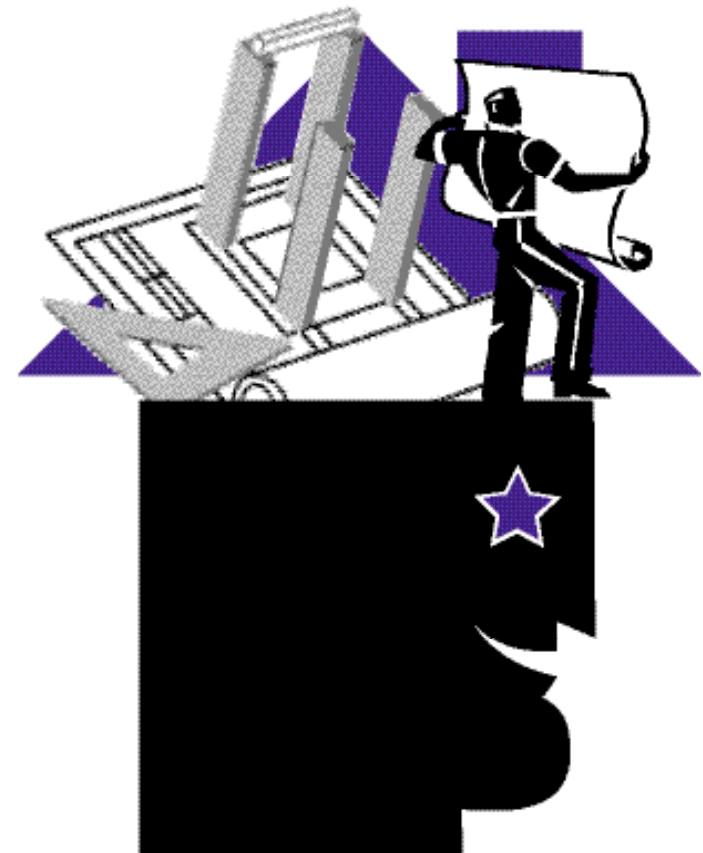
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**IF YOU HAVE ANY OTHER QUESTIONS CALL
THE OFFICE OF BUILDING SERVICES
AT (586) 446-2360**



**PLAN
SUBMISSION**

A Guide To Submitting Plans



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BUILDING PLAN REVIEW REQUIREMENTS

1. A code compliance summary indicating all codes that the building was designed to comply with.
2. Height and area calculations. (per Table 503).
3. Indicate fire resistance rating of structural elements. (per Table 602).
4. If any mechanical, electrical or plumbing is proposed then those drawings must be submitted as well.
5. If the building is a multi-tenant building then a key plan showing the entire building, all tenant spaces and uses shall be provided. All fire walls and fire separation walls must be indicated. The entire building must be evaluated, not just a tenant space.
6. Floor plans of all floors including basements.
7. Elevations of all sides of structures.
8. Wall sections and stair details as needed.
9. A site plan including the following information:
 - a. Size and location of all new construction and all existing structures on the site.
 - b. Distances from lot lines.
 - c. Established street grades and proposed finish grades.
 - d. Indicate posted fire lanes.
10. Architectural plans and specifications to include:
 - a. Description of uses and the proposed use group (s) for all portions of the building. The design approach for mixed-uses (as applicable).
 - b. Proposed type of construction of the building.
 - c. Fully dimensioned drawings to determine areas and building height.
 - d. Adequate details and dimensions to evaluate means of egress, including occupant loads for each floor, exit arrangement and sizes, corridors, doors, stairs, etc.
 - e. Exit signs/means of egress lighting, including power supply.
 - f. Accessibility scoping provisions.
 - g. Description and details of proposed special occupancies such as a covered mall, high-rise, mezzanine, atrium, public garage, etc.
 - h. Adequate details to evaluate fire-resistive construction requirements, including data substantiating required ratings.
 - i. Details of plastic, insulation, and safety glazing installation.
 - j. Details of required fire protection systems.
11. Structural plans, specifications, and engineering details to include:
 - a. Soils report indicating the soil type and recommended allowable bearing pressure and foundation type.
 - b. Signed and sealed structural design calculations which support the member sizes on the drawings.

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- c. Applicable construction standards and material specifications (i.e., Local design load criteria, including: frost depth; live loads, snow loads; wind loads; earthquake design data; other special loads.
- d. Details of foundations and superstructure.
- e. Provisions for required special inspections.
- f. masonry, concrete, wood, steel, etc.

ACCESSIBILITY PLAN REVIEW REQUIREMENTS

1. A site plan including the following information:
 - a. Size and location of all new construction and all existing structures on the site.
 - b. Location of any recreational facilities (i.e., pool, tennis courts, etc.)
 - c. Established street grades and proposed finished grade.
 - d. Accessible parking, other locations of public access to the facility, accessible exterior routes and locations of accessible entrances.
2. Architectural plans and specifications to include:
 - a. Description of uses and the proposed use group(s) for all portions of the building. The design approach for mixed-uses (as applicable)
 - b. Fully dimensioned drawings to determine areas and building height
 - c. Adequate details and dimensions to evaluate accessible means of egress, including occupant loads for each floor, exit arrangement and sizes, corridors, doors, stairs, areas of refuge, etc.
 - d. Adequate details and dimensions to evaluate accessible route to areas required to be accessible, including corridors, doors, protruding objects, maneuvering clearances, clear floor space at fixtures and controls, etc.
 - e. Accessibility provisions including but not limited to access to services, seating, listening systems, accessible fixtures, elevators, work surfaces, etc.
 - f. Accessible plumbing facilities and details.
 - g. Tactile signage provided.
 - h. Details of required fire protection systems.

ELECTRICAL PLAN REVIEW REQUIREMENTS

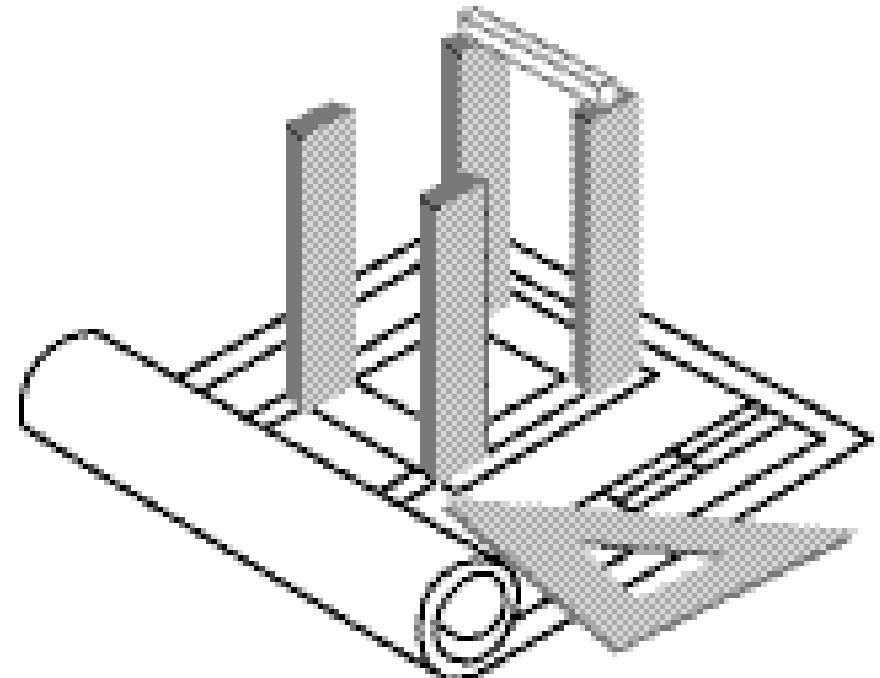
1. Labeling criteria of all electrical equipment.
2. Lighting floor plan including electrical circuits indicating conduit and wiring sizes.
3. Power floor plans including electrical circuits indicating conduit and wiring sizes, equipment and disconnect switches.
4. Exit sign/means of egress lighting location and power supply.

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- Wall detail cross section
- Show compliance with Michigan Uniform Energy Code
- Elevations of all sides of structure
- Stair details/Cross section of stairway

Plans are required for, but not limited to the following:

- A New House
- An Addition to a House
- A Sunroom
- A Deck
- Concrete driveway
- Basement Renovations
- Interior Renovations
- A Pool
- A Shed
- A Garage
- A Fence



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chased from the City, and must be located inside the building on an outside wall. Meter pits are prohibited.

5. Note a detector check on the fire line. The detector check must be the same size as the fire line, located inside the building on an outside wall, and must be purchased from the City. Meter pits are prohibited.
6. Water and sanitary sewer charges apply to all water used, including water utilized for irrigation systems.

Existing Commercial and Industrial Construction

1. Indicate the square footage of the proposed addition and the square footage of any portion of the building to be demolished.
2. Clearly indicate any changes to the existing water and/or sanitary sewer system, including any new taps.

Multiple-Family Residential

1. Show the size and location of all proposed domestic water taps. The domestic water tap must be made from a circulating water main.
2. Show the size and location of the water meter with a backflow preventer. The water meter and backflow preventer must be the same size, must be purchased from the City, and must be located inside the building on an outside wall. Meter pits are prohibited.
3. If the development has many buildings with varying numbers of units per building, provide a summary sheet that lists all water tap and meter sizes.
For example: Building #1 9 units 2" water tap 2" water meter
 Building #2 5 units 1 1/2" water tap 1 1/2" water meter
4. Note irrigation plans on building drawing. Separate taps for irrigation are allowed but water and sanitary sewer charges apply to all water used. Water taps and meters utilized for domestic and irrigation services must be larger than minimum size. Check with DPS for minimum sizes.
5. Clearly note the number of buildings and number of units per building on blueprint cover sheet.

RESIDENTIAL

Submit two (2) sets of plans. Plans may be drawn by anyone as long as the structure is not over 3,500 square feet. If the structure is over 3,500 square feet the plans must be prepared by a design professional (i.e. Architect or Engineer).

Plans should include the following:

- Plot plan showing set back and size of all structures
- Floor plans of all floors including basements

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5. Panelboard schedule.
6. Lighting fixture schedule.
7. Symbol schedule and diagrams.
8. Complete service riser diagram including load calculations.
9. Specifications to include requirements for:
 - a. Raceway and conduit with fittings.
 - b. Wire and cable.
 - c. Electrical boxes, fittings and installation.
 - d. Electrical connections.
 - e. Electrical wiring devices.
 - f. Circuit and motor disconnects.
 - g. Hangers and supporting devices.
 - h. Electrical Identification.
 - i. Service entrance and details.
 - j. Overcurrent protection.
 - k. Switchboards
 - l. Grounding.
 - m. Transformers.
 - n. Panelboards.
 - o. Motor control centers.
 - p. Lighting fixtures.
 - q. Fire protective signaling systems.
 - r. Automatic fire detection systems.
 - s. Emergency/standby systems.
10. Fault current availability at all disconnects.

MECHANICAL PLAN REVIEW REQUIREMENTS

1. Labeling criteria of all mechanical equipment.
2. Heating equipment data including the following information:
 - a. Equipment capacity (b.t.u.)
 - b. Controls.
 - c. Appliance layouts showing location, access and clearances.
 - d. Disconnect switches.
 - e. Indoor and outdoor design temperatures.
3. Ventilation data, ductwork and equipment including the following:
 - a. Ventilation schedule indicating the amount of outside air (in c.f.m.) supplied to each room or space.

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- . Layout showing outside air intakes.
 - c. Construction of ducts, including support and sheet metal thickness.
 - d. Duct lining and insulation materials with flame spread and smoke-developed ratings.
 - e. Exhaust fan ductwork layout and termination to the outside.
 - f. Size of louvers and grilles for attic ventilation.
4. Boiler and water heater equipment and piping details including safety controls and distribution piping layout.
5. Gas and fuel oil piping layout, material, sizes and valves.
6. Combustion air intake quantities and details.
7. Commercial kitchen exhaust equipment details including hood and fan drawings, details of automatic fire suppression, and clearances.
8. Chimney and chimney connector or vent and vent connector details and connector gages and clearances.
9. Mechanical refrigeration equipment data details.
10. Solid fuel burning appliance details including incinerator and fireplace drawings and details.
11. Energy conservation equipment data and details.
12. Indicate smoke alarms with audio/visual and monitor stations.

PLUMBING PLAN REVIEW REQUIREMENTS

1. Plumbing fixture and piping material specifications including identification of the applicable referenced standard.
2. Plumbing fixture information to include:
 - a. The occupant load used to determine the number of required plumbing fixtures.
 - b. Number and distribution based on the use group.
 - c. Separate facilities for each sex (available to public).
 - d. Accessible plumbing facilities and details.
 - e. Anti-scald shower valves.
3. Plumbing piping plan showing layout, pitch of drainage lines, cleanouts, size of traps, and riser diagram.
4. Water supply and distribution plan showing piping sizes, valves, water heater details and temperature-pressure relief valve with discharge pipe. Thermal expansion control.
5. Sanitary drainage and vent system riser diagram showing drainage fixture units (dfu), sizes and vent termination details through the roof.

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- . Potable water system riser diagram showing piping sizes and provisions for protection of potable water supply.
7. Piping support and installation schedule.
8. Storm drainage details including rain gutter or roof drain sizes and downspouts/leader sizes and secondary roof drainage.
9. Health care plumbing and fixture details.
10. Also please see "Department of Public Services" plan review requirements.

SPRINKLER PLAN REVIEW REQUIREMENTS

1. Description and locations of uses within the building.
2. Design details in accordance with the appropriate reference standard (i.e. NFPA 13, 13D, 13R) as referenced by the building code.
3. Design calculations indicating the discharge requirements of the system with evaluation of the arrangement and source of the water supply.
4. Results of a current flow test indicating the location and date of the test.
5. Working drawings indicating all pipe sizes and the spacing between branch lines and sprinklers on the branch line.
6. Material specifications and equipment specifications. All materials used should be verified that they are installed in accordance with their listing.
7. Provide detail of backflow protection method.
8. Provide hanger plan.

DEPARTMENT OF PUBLIC SERVICES PLAN REVIEW REQUIREMENTS

New Commercial and Industrial Construction

1. New commercial and industrial construction must indicate the square footage of the building and all structures on the property. The square footage calculation must include every floor, the basement, any mezzanines, sheds, and/or storage garages. Demonstrate how the total square footage calculation has been determined by listing each calculation separately.
2. Note the square footage of any structure on the property to be demolished. Indicate whether or not there are any previously installed water or sanitary sewer lines and if these lines will be abandoned or re-used.
3. Show the size, location of the proposed domestic water tap and fire line, if applicable. The domestic water tap must be made from a circulating water main.
4. Show the size and location of the water meter with a backflow preventer. The water meter and backflow preventer must be the same size, must be purchased

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GENERAL REQUIREMENTS FOR PLAN SUBMISSION

All plans and drawings must comply with the Codes and Ordinances of the City of Sterling Heights.

BUILDING **Commercial** Michigan Building Code, incorporating the 2006 edition of the International Building Code with amendments.

BUILDING **Residential** Michigan Residential Code, incorporating the 2006 edition of the International Residential Code with amendments.

ACCESSIBILITY Michigan Barrier Free Design, Michigan Building Code, 2006 Edition ICC/ANSI A117.1, as reference.

MECHANICAL Michigan Mechanical Code, incorporating the 2006 edition of the International Mechanical Code with amendments.

PLUMBING Michigan Plumbing Code, incorporating the 2006 edition of the International Plumbing Code with amendments.

FIRE PREVENTION 2006 IFC with amendments

ELECTRICAL Michigan Electrical Code, incorporating the 2005 Edition of the National Electrical Code.

HEALTH Macomb County Health Department

REGULATIONS 43525 Elizabeth

Mt. Clemens, MI 48043-1078

(586) 469-5235

COMMERCIAL, INDUSTRIAL, MULTI-FAMILY

- Submit three (3) sets of plans signed and sealed by a design professional (as required by Public Act 299 of 1980 as amended).

Drawings for this type of work are required by State law to be prepared by a design professional. It is the design professional's responsibility to make sure that the drawings comply with all codes, are complete in detail, and are done in a professional manner. Any drawings that are of poor quality, illegible, missing information or lacking detail will be denied. This will then require a re-submittal causing unwanted delays. Plans are required for, but not limited to the following:

- New Buildings or Structures
- Interior Renovations
- Exterior Renovations
- Additions to Existing Buildings
- Addition of Accessory Structures

All plans should include the following plan review requirements:

BUILDING PLAN REVIEW REQUIREMENTS

1. A code compliance summary indicating all codes that the building was designed to.

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